CLAIMS

1.–12. (Canceled)

13. (Currently Amended) A method comprising:

generating, using a plurality of encoders, a plurality of separately transrated output bitstreams from a compressed input bitstream running at a variable rate ~~using a plurality of encoders and~~ including at least one video frame from a packet payload of ~~a~~ the compressed input bitstream, each of the plurality of encoders comprising a corresponding quantization scale factor;

adjusting the quantization scale factor for each of the plurality of encoders to change from encoder to encoder the bit rate of each of the plurality of output bitstreams;

incorporating the plurality of output bitstreams into a video block for the compressed input bitstream comprising a header, an input video segment, and at least one output video segment associated with at least one of the output bitstreams, each video segment being differently offset within the video block; and

selecting from the video block for the compressed input bitstream ~~the at least~~ only one of the video segments for outputting responsive to bitrate demands of other concurrent output streams from at least one other compressed input bitstream.

14. (Original) The method of claim 13 wherein the at least one video frame includes a DCT coefficient associated with a partial decode of the packet payload.

15. (Currently Amended) The method of claim 13 further comprising segmenting the compressed input bitstream into successive input video segments each comprising a different content portion of an elementary stream of the compressed input bitstream.

16. (Currently Amended) The method of claim 13 further comprising segmenting at least one of the plurality of output bitstreams into successive ones of the at least one output video segments.

17.   (Currently Amended) The method of claim 15 wherein the at least one output video segment includes one of a group of coded pictures, a coded frame, and a video slice.

18.   (Currently Amended) The method of claim 13 further comprising interleaving transport packets of the selected at least one output video segment from the video block for the compressed input bitstream with transport packets of the other concurrent output streams from the at least one other compressed input bitstream.

19.   (Canceled)

20.   (Currently Amended) The method of claim 13 wherein the video block header comprises at least one of packet schedule information, compression statistics, and or a video segment offset.

21.   (Currently Amended) The method of claim 13 further comprising adjusting the quantization scale factor to change from encoder to encoder the bit rate by at least one of a fixed percentage or a fixed amount.

22.-37. (Canceled)

38.   (Currently Amended) A system comprising:

a plurality ~~of~~ encoders ~~corresponding~~ configured to generate a plurality of separately transrated output bitstreams from a compressed input bitstream, each of the plurality of encoders having a quantization scale factor;

a quantization module configured to adjust the quantization scale factor for each of the plurality of encoders to change from encoder to encoder a bit rate of each of the plurality of output bitstreams; and

a formatter module configured to incorporate the plurality of output bitstreams into a video block for the compressed input bitstream comprising a header~~, an input video segment, and at least one~~ and a plurality of video segment~~s~~ corresponding to the plurality ~~associated with at least one~~ of the output bitstreams, each video segment being separately encoded at a different bit rate while including a same portion of programming content from the compressed input bitstream; and

a switch module configured to select from the video block for the compressed input bitstream ~~at least~~ one of the video segment~~s~~ for an output responsive to bit rate demands of other concurrent output streams from at least one other compressed input bitstream.

39.   (Currently Amended) The system of claim 38 further comprising an extractor module configured to extract a packet payload from ~~a~~ the compressed input bitstream and to segment the compressed input bitstream into a plurality of successive input video segments each comprising a different portion of an elementary stream of the compressed input bitstream.

40.   (Currently Amended) The system of claim 39 wherein ~~a~~ each video segment includes one of a group of coded pictures, a coded frame, ~~and~~ or a video slice.

41.   (Canceled)

42. (Currently Amended) The system of claim 38 wherein the switch module is further configured to interleave transport packets of ~~the~~ a selected one of the plurality of ~~at least one~~ video segments from the video block for the compressed input bitstream with transport packets of the other concurrent output streams from the at least one other compressed input bitstream.

43. (Currently Amended) The system of claim 42 wherein the video block header comprises at least one of packet schedule information, compression statistics, ~~and~~ or a video segment offset.

44. (Currently Amended) The system of claim 38 wherein each of the plurality of encoders is configured to adjust the quantization scale factor to reduce bit rate from encoder to encoder by at least one of a fixed percentage or a fixed amount.

45.-49. (Canceled)

50. (Previously Presented) The method of claim 18 further comprising storing the at least one video frame in at least one frame buffer.

51. (Currently Amended) The method of claim 18 further comprising transmitting at a substantially constant bit rate over a given period the interleaved transport packets from the respective compressed input bit streams, each running at a variable bit rate, ~~of the selected at least one video segment with the transport packets of the other concurrent output streams~~ to a buffer for outputting to a channel of an available channel capacity ~~at a constant bit rate~~.

52. (Canceled)

53. (Previously Presented) The method of claim 51 further comprising:
including compression statistics into the header; and
normalizing a video quality of the output stream responsive to the statistics.

54.   (Previously Presented) The system of claim 38 further comprising at least one frame buffer to store at least one video frame of the compressed bitstream.

55.   (Currently Amended) The system of claim 38 wherein the switch module is further configured to transmit <u>at a substantially constant bit rate over a given period</u> the interleaved transport packets ~~of the selected at least one video segment with the transport packets of the other concurrent output streams~~ <u>from the respective compressed input bit streams, each running at a variable bit rate,</u> to a buffer for outputting to a channel <u>of an available channel capacity</u> ~~at a constant bit rate~~.

56.   (Canceled)

57.   (Previously Presented) The system of claim 55 wherein the switch module is further configured to:
    include at least one compression statistic into the header; and
    normalize a quality of the output stream responsive to the statistics.

58.   (New) The method of claim 13 further comprising selecting the only one of the video segments for each video block for each compressed input bitstream with a control signal provided independently of further stream processing subsequent to the outputting.

59.   (New) The method of claim 13 further comprising selecting the only one of the video segments using information from the header of the video block.

60.   (New) The method of claim 59 wherein the information from the header includes bit rate information.

61.   (New) The method of claim 59 wherein the information from the header includes look ahead information relating to video blocks yet to be provided.

62.   (New) The method of claim 59 wherein the information from the header includes time alignment information to compensate for differences in the size of successively selected segments.

63.   (New) The method of claim 13 further comprising outputting to a buffer and modeling the current state of the buffer for underflow and overflow.

64.   (New) The method of claim 13 further comprising selecting segments from successive video blocks to substantially use fully a bit budget for a given period correlating to an available channel capacity.

65.   (New) The method of claim 13 further comprising outputting compatibly with a constant bit rate (CBR) channel located downstream.

66.   (New) The method of claim 65 further comprising incorporating a local stream segment into the outputting.

67.   (New) The system of claim 38 further comprising a scheduling module to provide a control to the switch module to determine which video segments to select free of any signal feedback only available following the output.

68.   (New) The system of claim 67 wherein the scheduling module is configured to analyze information from the header of the video block.

69.   (New) The system of claim 68 wherein the information from the header includes bit rate information.

70.   (New) The system of claim 68 wherein the information from the header includes look ahead information arriving before a later video block described by the look ahead information.

71.   (New) The system of claim 68 wherein the information from the header includes time alignment information used to compensate for differences in the size of successively selected segments.

72.   (New) The system of claim 38 further comprising a buffer fed by the output and a modeling module to model the current state of the buffer for underflow and overflow.